98 and flexes the lever arms **92**. Thus, the touch screen display **24** is further displaced after actuation of the switch **32** to a total displacement of "d". In FIG. **11**, however, the force "E" is applied to the touch screen display **24**, on one side thereof. Thus, the touch screen display **24** pivots against the underside of the frame **86** on the side opposite to the side at which the force is applied, as described above. In the view shown in FIG. **11**, the right side of the touch screen display **24** to which the force is applied is displaced a distance of "d" to cause the lever arm **92** on the right side to pivot, displacing the switch **32** away from the base **22** and toward the touch screen display **24**. Thus, the center of the touch screen display **24** is displaced approximately ½"d" and the switch **32** is displaced approximately ½ "d". The total relative movement of the switch **32** toward the center of the touch screen display and the center of the touch screen display **24** toward the switch **32** is "d" to actuate the switch **32**. It will again be appreciated that the position of the pivots **94** can be determined for best performance and the pivots **94** are not required to be centrally located along the respective lever arms **92**.

[0066] Reference is now made to FIGS. **12** and **13** to describe an electronic device according to yet another embodiment. Many of the features of the present embodiment are similar to those in the previously described embodiments and are therefore not further described herein. The feedback mechanism **30** of the present embodiment differs from the feedback mechanism described above, however. Again, the portable electronic device **20** includes the feedback mechanism **30** which, in the present embodiment, includes the switch **32** as well as other components for providing tactile feedback to the user of the portable electronic device **20** when applying a force by user-pressing on the input surface **28** of the touch screen display **24**. The switch **32** can be, for example, a mechanical dome-type switch **32** and is shown in FIG. **12** in the uncompressed or non-actuated state. The switch **32** is moveable away from the base **22**, in the direction of the touch screen display **24**. In the present exemplary embodiment, two lever arms **92** extend from an underside of the switch, toward respective sides of the touch screen display **24**. Each of the lever arms **92** is pivotable about a respective pivot pin **104** located between ends of the lever arm **92**, as shown in FIG. **12**. It will again be appreciated that the location of the pivot pin **104** can be selected for suitable operation and performance of the feedback mechanism **30**. The lever arms **92** are connected to each other at respective ends thereof and are unitary, with a thinned, flexible portion of material between the two lever arms **92** to provide a hinge **110**. The lever arms **92** are fingers **108** that are interlaced to support the switch **32** for displacement.

[0067] Referring to FIG. **13**, a perspective view of portions of the feedback mechanism **30** including the lever arms **92**, the pivot pins **104** and the finger **108** are shown. In the example shown in FIG. **13**, one of the lever arms **92** includes a single finger **108** located between two fingers **108** of the other of the lever arms **92**. It will be appreciated that the lever arms **92** and fingers **108** are constructed of a suitable plastic material for repeated relative motion provided by the hinge **110**. Each lever arm **92** is also shaped to provide a projection **98** on the end, opposite the end that includes the fingers **108**. The projection **98** is spaced from the touch screen display **24** when the touch screen display is in the rest position in which it is biased toward the frame **86** by a biasing element or biasing elements (not shown).

[0068] It will be appreciated that each lever arm **92** is pivotable about the respective pivot pin **104** to cause movement of the finger **108** which support the switch **32**, therefore causing movement of the switch **32** between the base **22** and the touch screen display **24**. Thus, displacement of the touch screen display **24** by a force applied by a user pressing on the touch screen display, causes the touch screen display **24** to contact at least one of the two projections **98**. Application of a force on one side of the touch screen display **24** by a user pressing on the touch-sensitive input surface **28**, causes pivoting of the touch screen display **24** such that the side to which the force is applied, moves toward the base **22** and contacts the respective projection **98**, causing pivoting of the respective lever arm **92** into contact with the respective stop **99**. Pivoting of the lever arm **92** results in displacement of the fingers **108** and thus, displacement of the switch **32** away from the base **22**, toward the touch screen display **24** to actuate the switch **32** as a result of compression against the display support **89**. Application of a force near a center of the touch screen display **24** by a user pressing on the touch-sensitive input surface **28**, proximal a center thereof, causes displacement of the touch screen display **24**, into contact with the projections **98** and further displacement resulting in actuation of the switch **32**. As in the embodiment described with reference to FIGS. **9** to **11**, the lever arms **92** in the present embodiment flex when a force is applied to center of the touch screen display **24**, such that the lever arms **92** contact the respective stops **99**.

[0069] The touch screen display **24** and the feedback mechanism **30** including the mechanical switch **32** that is moveable with respect to the base **22** provides the user with a desirable tactile feedback. The feedback mechanism **30** provides for relative movement of the switch **32** in relation to the touch screen display **24**, reducing the displacement required to actuate the switch **32** when a force is applied proximal a side or corner on the touch screen display **24**. The feedback mechanism **30** therefore compensates for the difference in displacement of the center of the touch screen display **24** when a force is applied near a side or corner thereof, versus the displacement of the of the center of the touch screen display **24** when a force is applied near the center thereof. Thus, the touch screen display **24** is moved towards the switch **32** and the switch **32** can be moved towards the touch screen display **24**. Absent such a compensation mechanism, the displacement of the touch screen display **24** when a force is applied proximal an edge thereof, is about twice the displacement of the touch screen display **24** when a force is applied proximal the center.

[0070] According to one aspect, an electronic device includes a base and a touch screen display connected to the base and movable relative thereto. The touch screen display includes a display device and a touch-sensitive input surface overlying the display device. The electronic device includes a feedback mechanism including a switch moveable relative to the base for actuating in response to application of a force to the touch-sensitive input surface causing movement of the touch screen display. Operational components are connected to the touch screen display for operation of the electronic device.

[0071] According to another aspect, the touch screen display includes a display support for providing mechanical support to the display device and touch-sensitive input surface with the display device and the touch-sensitive input surface disposed on the display support.